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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,639	01/16/2001	Masahiro Yoshida	OKI.206	2239

7590 08/21/2002

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EXAMINER

HO, TU TU V

ART UNIT PAPER NUMBER

2818

DATE MAILED: 08/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/759,639

Applicant(s)

YOSHIDA ET AL.

Examiner

Tu-Tu Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This application is in condition for allowance except for the presence of claims 16 and 17 non-elected with traverse.

Applicant's election with traverse of claims 1-14 in Paper No. 13 filed 31 July 2002 is acknowledged. However, the examiner maintains the Restriction Requirement.

The examiner issued the Restriction Requirement dated 02 July 2002 (Paper 11) in response to Applicant's Amendment filed 14 June 2002 (Paper 10), at least for the following reasons. Applicant amended claim 16 so that the side-wall structure includes nitrogen ("said side wall structure including nitrogen") and claim 17 so that the side wall structure from a single-layer to become a double-layer structure ("forming a second portion of side wall structure over a second portion of said gate oxide layer and adjacent said gate electrode" to become "forming a second portion of said side wall structure on said first portion of said side wall structure over said [a] second portion of said gate oxide layer and adjacent said gate electrode".

It is true that the limitation "nitrogen" is present also in other independent claims 1, 4, 5, and 14. However, the structure of these claims is made from a different process. It is also true that claim 16 contains the limitation "said side wall structure is formed by CVD at a temperature exceeding 850°C" before the Amendment. However, when both of these limitations are present together in the same claim or in the same group of claims, the search for prior art would be different. Claim 16 specifically recites: "said side wall structure including nitrogen" and "said side wall structure is formed by CVD at a temperature exceeding 850°C". The examiner would have to search for prior art's devices having a side wall structure including nitrogen **and** the side

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wall structure being formed by CVD at a temperature exceeding 850°C. As is probably well known to Applicant, a reference with a side wall structure including nitrogen and a reference with a side wall structure being formed by CVD at a temperature exceeding 850°C is not the same as a reference with a side wall structure including nitrogen and being formed by CVD at a temperature exceeding 850°C. As for claim 17, it is clear that the Examiner would have to search for a reference with a double-layer side wall structure wherein the inner portion of the double-layer side wall structure being formed by CVD at a temperature exceeding 850°C.

Statement of Reasons for Allowance

2. Claims 1- 14 are allowable over the prior art of record.

The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach or render obvious a semiconductor device and a method for manufacturing a semiconductor device having all exclusion limitations as recited in claims 1, 4, 5, and 14, respectively characterized in that a portion of the (silicon oxide/diffusion deterrent) layer, formed between a sidewall structure and a substrate, is thicker than the gate oxide and wherein the sidewall structure includes nitrogen.

Any comments considered necessary by applicants should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

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3. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (703) 305-0086. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (703) 308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

TH

Tu-Tu Ho
August 14, 2002



HOAI HO
PRIMARY EXAMINER